REMARKS/ARGUMENTS

Claims 1-8 are currently pending in this application.

Allowable Subject Matter

The Examiner is thanked for indicating that claims 2-4 and 6-8 contain allowable subject matter if rewritten in independent form.

Claim Rejections - 35 USC § 103(a)

Claims 1 and 5 stand rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent No. 5,752,187 to Frank et al. (hereinafter "Frank"). The Applicant respectfully disagrees.

The present invention is directed to a method and apparatus for handing-off a mobile unit from a current base station to a candidate base station in a CDMA communication system, such that the mobile unit receives transmissions containing pilot codes from a plurality of nearby candidate base station, and establishes a communication link with the candidate base station that requires the least amount of transmit power from the mobile unit for communication. The mobile unit then completes the handoff to the selected candidate base station only if the transmit

power to the selected candidate base station is less than the transmit power for communication with the current base station.

The communication system in Frank considers a satellite cellular system whereby mobile subscriber units communicate with moving satellites (see Column 3, lines 9-11). Applicant agrees that Frank discloses a method for handing-off a mobile unit's communication from a current antenna beam to a candidate antenna beam. However, in contrast to the claimed invention, the criteria used to complete a handoff to a candidate antenna beam in Frank is according to the antenna beam with the greatest received signal level at the mobile unit and not according to the minimum transmit power required by the mobile unit to communicate with a candidate antenna beam, as in the present invention.

In Column 8, line 64 – Column 9, line 9 of Frank it is explained:

> In the preferred embodiment, a subscriber unit accesses to the communication system and is assigned a traffic channel. During a TDMA frame, a subscriber unit measures the signal strength of candidate hand-off beams. The signal strength of the current beam's broadcast channel is compared to the signal strength of the candidate hand-off beams' broadcast channels. When the signal strength of the current beam broadcast channel is not the strongest, counters associated with the current beam and the strongest beam are incremented. If the current beam counter exceeds a predetermined count threshold, a hand-off is requested to the beam with the largest beam count. Accordingly, only after the current antenna beam has not been the strongest beam for a certain period of time, is a hand-off requested.

From the handoff criteria disclosed in Frank, it is clear that Frank's handoff method is directed toward improving downlink channel quality from a satellite's

antenna beam. It is designed for satellite systems where channel quality is often poor, and a communication link with the satellite antenna achieving the strongest signal strength is desired.

In contrast, the present invention is designed for cellular systems such that mobile units can reliably communicate with multiple base stations and wherein a principal concern is to effectively reduce power consumption at mobile units relying on battery power to extend their use (see paragraph 0011).

According to the present invention, as clearly disclosed in claims 1 and 5, a mobile unit establishes a communication link to the candidate base station from which the mobile unit acquires a global pilot code with minimum transmit power. In particular, the mobile unit transmits successive short codes with gradually increasing transmit power and monitors the corresponding acknowledgement signals from the candidate base station to determine if the candidate base station is receiving the short code (see paragraph 0037). The mobile unit compares the transmit power (of the short code) to the candidate base station with the transmit power to the current base station, then establishes a link to the candidate base station that requires the minimum transmit power from the mobile subscriber unit. The mobile unit completes the handoff to the candidate base station if the transmit power to the candidate base station is less than the transmit power to the current base station.

Frank does not teach or suggest establishing a link to the candidate base station that requires the minimum transmit power, or comparing the transmit power from the mobile unit to the candidate base station to the transmit power from the mobile unit to the current base station. More particularly, Frank does not disclose the use of successive transmissions with increasing power and with corresponding acknowledgement signals from the candidate base stations for the purpose of selecting a handoff base station. On the contrary, in Column 10, lines 5-9, Frank discloses (emphasis added):

> In task 104, the signal level of the current beam in which the subscriber unit is communicating is compared to the signal level of the **candidate hand-off beam that has the greatest signal level**.

That is, the signal levels of received communication beams are compared, and the beam with the greatest received signal level is selected. Therefore, Frank does not teach or suggest the features of the claimed invention, and in particular does not teach or suggest the features of claims 1 and 5. Based on the arguments presented above, withdrawal of the 35 USC § 103(a) rejection of claims 1 and 5 is respectfully requested.

Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a

telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing remarks, Applicant respectfully submits that the present application, including claims 1-8, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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